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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:
Sousa, M. M. d., Araújo, A. A. d., Freire, M. E. M., Oliveira, J. d. S., & Oliveira, S. H. d. S. (2016). Nursing diagnoses and interventions for people with decompensated heart failure. *Revista de Pesquisa: Cuidado é Fundamental Online*, *8*(4), 5025-5031. https://doi.org/10.9789/2175-5361.2016.v8i4.5025-5031

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https://nbn-resolving.org/urn:nbn:de:0168-ssoar-53654-8

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Universidade Federal do Estado do Rio de Janeiro • Escola de Enfermagem Alfredo Pinto

RESEARCH

DOI: 10.9789/2175-5361.2016.v8i4.5025-5031

Diagnósticos e intervenções de enfermagem para a pessoa com insuficiência cardíaca descompensada

Nursing diagnoses and interventions for people with decompensated heart failure

Diagnósticos e intervenciones para la persona com insuficiencia cardíarca descompensada

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How to quote this article:
Sousa MM; Araújo AA; Freire MEM; et al. Nursing diagnoses and interventions for people with decompensated heart failure. Rev Fund Care Online. 2016 out/dez; 8(4):5025-5031. DOI: http://dx.doi.org/10.9789/2175-5361.2016.v8i4.5025-5031

ABSTRACT

Objective: to identify nursing diagnoses and interventions for people with decompensated heart failure. **Method:** descriptive, observational and cross-sectional study, clinical case report type. The locus was the intensive care unit of a tertiary teaching hospital. Authors used the nomenclature Nursing Diagnoses and Interventions developed and validated for that hospital, according to the terms of the International Classification for Nursing Practice (ICNP®). **Results:** nursing diagnoses were established from the clinical signs and symptoms during the admission of patients with decompensated heart failure. The identified terms common to the disease were: dyspnea, edema, fatigue, decreased cardiac output and arrhythmia. **Conclusion:** the nursing diagnoses/interventions have contributed to the work of nurses in decision-making and management of patients with decompensated heart failure, allowing the systematization of an effective and problem-solving nursing care.

Descriptors: Heart Failure; Nursing Diagnoses; Nursing Process.

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RESUMO

Objetivo: identificar os diagnósticos e intervenções de enfermagem à pessoa com insuficiência cardíaca descompensada. **Método**: estudo descritivo, observacional e transversal do tipo relato de caso clínico. O *lócus* foi a unidade de terapia intensiva de um hospital terciário de ensino. Utilizou-se a nomenclatura Diagnósticos e Intervenções de Enfermagem desenvolvida e validada para o referido hospital, conforme termos da Classificação Internacional para a Prática de Enfermagem (CIPE®). **Resultados**: foram estabelecidos diagnósticos de enfermagem a partir dos sinais e sintomas clínicos durante a admissão do paciente com insuficiência cardíaca descompensada. Os termos identificados mais comuns à doença foram: dispneia, edema, fadiga, débito cardíaco diminuído e arritmia. **Conclusão:** os diagnósticos/intervenções de enfermagem contribuem para a atuação do enfermeiro na tomada de decisão e manejo do paciente com insuficiência cardíaca descompensada, possibilitando realizar uma sistematização da assistência de enfermagem eficaz e resolutiva.

Descritores: Insuficiência Cardíaca; Diagnósticos de Enfermagem; Processo de Enfermagem.

RESUMEN

Objetivo: identificar los diagnósticos e intervenciones de enfermería a la persona con insuficiencia cardíaca descompensada. **Método**: estudio descriptivo, observacional y transversal del tipo relato de caso clínico. El *locus* fue la unidad de terapia intensiva de un hospital terciario de enseñanza. Se utilizó la nomenclatura Diagnósticos e Intervenciones de Enfermería desarrollada y validada para el referido hospital, conforme las condiciones de la Clasificación Internacional para la Práctica de Enfermería (CIPE®). **Resultados**: fueron establecidos diagnósticos de enfermería a partir de los señales y síntomas clínicos durante la admisión del paciente con insuficiencia cardíaca descompensada. Las condiciones identificadas más comunes a la enfermedad fueron: disnea, edema, fatiga, débito cardíaco disminuido y arritmia. **Conclusión:** los diagnósticos/intervenciones de enfermería contribuyen para la actuación del enfermero en la tomada de decisión y manejo del paciente con insuficiencia cardíaca descompensada, posibilitando realizar una sistematización de la asistencia de enfermería eficaz y resolutiva.

Descriptores: Insuficiencia Cardíaca; Diagnósticos de Enfermería; Proceso de Enfermería.

INTRODUCTION

Heart failure (HF) is a syndrome characterized by the inability of the heart to pump enough blood to meet the metabolic and tissue needs of the body.[1] Among the cardiovascular diseases, this is considered as a major cause of disability and morbidity, preventing the execution of daily and professional activities, and predisposing to emotional disorders such as depression and anxiety.

It is a complex disease for the health team due to multiple etiologies and association with comorbidities. The main goal of treatment is to maintain clinical stability, reduce the length of stay, and promote better living conditions, increasing patient survival.[2]

Because its incidence, it is considered a cardiovascular health epidemic of the XXI century.[3] Projections indicate that by 2025 the HF will be the first cause of death due to cardiovascular disease.[4] Approximately 23 million people are living with HF and 2 million new cases are diagnosed each year worldwide. In Brazil, it is estimated that 6.4 million people are affected by this disease, which is prevalent in the elderly, representing the first cause of hospitalization in patients over 60 years old.[5]

The lack of knowledge about the decompensated HF, associated with co-morbidities, with the lack of information about the disease in special groups (pregnant women and the elderly) and failure of adherence to drug therapy may be identified as the cause of aggravation of the condition.[6-7]

It is worth mentioning that the most common clinical manifestations found in patients with decompensated heart failure admitted to emergency units are congestive conditions, such as dyspnea, fatigue, orthopnea, lower limb edema, nocturnal cough or just dyspnea on exertion, which associated with comorbidities may have defined diagnosis.[8]

Thus, in emergency services where the nurse is responsible for the screening of patients, it is essential that the clinical evaluation of patients is performed accurately, quickly and safely. The recognition of the clinical picture determines and guides the most appropriate interventions. Therefore, it is fundamental the use of scientific methods to support nursing practice, favoring the promotion, maintenance and recovery of health, in addition to validate the relationship between knowledge and care, essential to the nursing process.[9-10]

The nursing process (NP) is a dynamic and systematic work method that consists of five steps correlated, and is an essential tool for the practice of nursing care. Thus, the application of the NP, together with the clinical practice and the use of a standardized language, supports the development and promotes the organization of critical thinking and diagnostic reasoning, as well as provides a precise care, enabling the evidence-based practice.[11,8]

However, nurses need knowledge and skills required to achieve the quality of work, combining the use of rating systems that have standardized language, allowing the care planning and the development of nurses' clinical competence.[12]

The International Classification of Nursing Practice (ICNP®) is one of the classification systems consisting of three elements: phenomenon, result and nursing actions whose aim is to establish a common language to describe the nursing practice, facilitating communication between nurses and with other professionals, as well as globally describing the provision of nursing care in the context of the individual, family and community.[13]

The ICNP® enables the planning of professional nursing interventions, according to the person's needs, taking into account the disabilities faced.[14]

There are few studies in the Brazilian literature using ICNP® aimed at identifying the main nursing diagnoses and interventions in intensive care environment, and clinical

characteristics of patients hospitalized with heart failure. However, the studies evaluated are not related to specific situations, as well as the initial management of nursing care to people with heart failure.

Faced with the need to ensure to patients affected by HF a nursing care with scientific basis and in a systematic manner and considering that the nursing diagnosis guides the preparation of interventions, there was the interest in verifying which nursing diagnoses and interventions may be present in a patient with decompensated heart failure using the case study to present the diagnoses and interventions of ICNP®.

In this perspective, this study aimed to identify nursing diagnoses and interventions in people with decompensated heart failure from a clinical case.

METHODS

This is a clinical case report, developed in the intensive care unit of a teaching hospital, of tertiary character, located in the city of João Pessoa - PB, Brazil. A 18-years-old patient with clinical diagnosis of heart failure (HF) participated in the study. He was chosen by the particular interest in building diagnoses and interventions in patients with HF, showing the most common signs and clinical symptoms and those observed in the patient of the case study due to hemodynamic compromise and restriction of daily activities that the disease causes, requiring constant vigilance and proper management by the multidisciplinary team, and particularly by nursing.

The instrument used for data collection was the nursing history, based on the theoretical assumptions of basic human needs, adopted by the institution. Data were obtained by physical examination, observations and information contained in the medical records and complications during hospitalization.

The collection was held in May 2013, after approval by the Ethics Committee of the institution (under CEAC 11012512.0.0000.5183) and consent of the participant and his family through the Informed Consent Form, complying with the national and international ethical and legal principles of research with humans.

The next phase of the study involved the analysis of the information collected, in which the nursing diagnoses, considered as priorities in the initial approach to people with HF, were identified from a term of the axis focus and an axis-judgment term and additional terms as needed, and for the construction of statements related to interventions an axis-action term and a target term were included, discussed before the literature related to the theme, as well as the clinical experience of the authors. Authors used the nomenclature of Nursing Diagnoses and Interventions, developed and validated for that hospital, according to the terms of the International Classification for Nursing Practice - ICNP®.[15]

RESULTS AND DISCUSSION

Case report

Patient J.C.A., 65, male, married, with complete primary education, retired due to disability, monthly income of 2 minimum wages, resident in the municipality of Conde -PB, admitted to the institution on April 24, 2013, referred by the Emergency Unit (UPA) in the municipality of Santa Rita - PB, with decompensated heart failure.

During physical examination at admission, the patient was conscious, oriented in time and space, restless, pallor, afebrile, anicteric, with isochoric and photo reagent pupils, preserved driving force, dyspnea, spontaneously breathing on ambient air, audible breath sounds, presence of diffuse snoring, oxygen saturation at 87%, tachycardia, heart rate of 140 beats per minute, regular heart rhythm, normal heart sounds in 2 times, decreased peripheral pulses, with edema in the lower limbs (+++/++++). He had also distended abdomen, painless on palpation, present bowel sounds, genitourinary system with no abnormalities; unknown drug allergy.

The day after the hospitalization, he had two episodes of cardiac arrest (CA) (ventricular fibrillation and asystolia), responding to resuscitation maneuvers. It was started invasive ventilatory support, as well as vasoactive agents, such as norepinephrine 30 ml/h, dobutamine 18 ml/h, adrenaline 10 ml/h in central venous access through the left subclavian vein. The average blood pressure was 104 mmHg. Regarding the biochemical tests, there was no predictive factor that compromised the clinical picture from electrolyte disturbances.

J.C.A. remained hospitalized in the intensive care unit for 34 days, from where he was discharged hemodynamically stable, without using vasoactive drugs and without ventilatory support, being referred to the nursing ward for observation. He was discharged on June 12, 2013.

Healthcare plan

It is worthy to point out that the pathophysiology of the decompensated HF may start from an injury to the myocardium that generates ventricular dysfunction or other less specific causes, which are concentric dysfunctions that can also lead to decompensation. This ventricular dysfunction triggers adaptive mechanisms associated with neuro-humoral activation, causing changes in the shape and mechanical efficiency of the heart (ventricular remodeling) and peripheral circulatory changes, as well as secondary damage due to increased oxidative stress, inflammation and cell death (apoptosis).[16]

Clinical data presented corroborate the findings in scientific production. It is possible to identify that the main clinical manifestations of patients with decompensated HF are related to cases of pulmonary congestion and hypertension, triggering symptoms, such as edema, cough,

fatigue and dyspnea, of which dyspnea id the most prevalent discomfort and considered the most life threatening.[6]

Using ICNP®, it was identified in the axis focus: arrhythmia, dyspnea, edema, decreased cardiac output and fatigue. The nursing interventions were built from the axis action and target, which are the most relevant for the studied case, presented in Figure 1.

Figure 1 – Nursing diagnoses/interventions for people with decompensated heart failure, according to the terms of the International Classification of Nursing Practices - ICNP®.

Basic human needs	Nursing diagnoses	Nursing interventions
Need for vascular regulation	Arrhythmias	Observe frequency and regularity of the pulse; pay attention to signs of lethal arrhythmias (ventricular fibrillation and ventricular tachycardia with decreased level of consciousness); contact the team and implement emergency basic life support maneuvers in force; maintain material for cardiopulmonary resuscitation ready for use.
Need for oxygenation	Dyspnea	Promote comfort position in bed and keep it at 30 degrees; examine lung conditions by auscultation; carry out strict water control to reduce signs of pulmonary congestion; monitor the administration of oxygen therapy; identify signs of cerebral hypoxia; monitor the hydration status of skin and mucous membranes.
Need for hydration	Edema	Assess the need for water restriction; carry out water control; monitor customers' response to diuretic treatment by water balance, regression of edema and body weight; protect edematous skin lesions and provide support to swollen areas with cushions, when necessary; monitor signs of weight gain every 24 hours (1.2kg).
Need for vascular regulation	Decreased cardiac output	Pay attention to signs of systemic vascular resistance (signs of decompensated shock); listen heart sounds and breath sounds; assess peripheral pulses every two hours or if there is signs of decompensation; observe the presence of cold and clammy skin.
Need for physical, body and mechanic activity, mobility and locomotion	Fatigue	Carry out mobilization in bed by nursing staff, minimizing efforts on the patient; plan rest and / or activity periods; reduce stressors (noise and excessive light in the environment).

(To be continued)

(Continuation)

The aforementioned nursing diagnoses/interventions are related to limited cardiac function, which is measured through low exercise tolerance with marked metabolic and respiratory responses, which leads the subject to inactivity, causing muscle atrophy associated with fatigue and decrease in muscle strength. The impaired heart causes failure in the blood pumping, leading to lung disorders, such as pulmonary hypertension and decreased ventilatory capacity, worsening of symptoms and cardiorespiratory performance.[17]

Because of the decrease in cardiac output, there is an increase in intravascular volume, resulting in pulmonary edema, evidenced by cough and dyspnea. The elevation of systemic venous pressure, in turn, can cause generalized peripheral edema.[18]

The excess of fluid in the HF is caused by excessive intake of fluids and sodium, due to non-adherence to nutritional therapy, causing overload of renal and water functions. Excess sodium in the diet causes multiple effects, particularly increased activity of the renin-angiotensin system. The excessive stimulation of this system by the high sodium intake results in water retention and has been associated with cardiac hypertrophy and congestive heart failure. Brazilian guidelines for the treatment of HF recommend the restriction of 1.0 to 1.5 liters/day for symptomatic patients at risk of fluid overload.[19]

The admission of patients with decompensated HF in the emergency services requires fast and efficient evaluation by the team, aiming at measures based on the best available evidence. In this context, the clinical examination is a fundamental tool for the diagnosis and management of patients with decompensated HF, since the history and physical examination combined are low cost and able to individualize the most appropriate interventions.[18]

The initial approach to the patient with decompensated HF should prioritize basic and advanced life support measures. Thus, it is necessary to maintain adequate tissue perfusion, reduced congestion/edema and maintain hemodynamic and respiratory status to prevent the worsening of existing conditions and the occurrence of secondary lesions due to ischemia/hypoxia of the central nervous system.[16]

Cross-sectional study conducted in a university hospital, consisting of 303 patients, aimed to identify the signs and symptoms of patients admitted with decompensated HF and infer the priority nursing diagnoses, highlighted

decreased cardiac output, lower limb edema and fatigue as the main clinical manifestations presented at the time of hospital admission.[8]

Still on this approach, a Brazilian study that aimed to build diagnostic statements and nursing interventions using the nomenclature of the ICNP® from pathophysiological model and clinical signs and symptoms of HF demonstrated the diagnoses inferred in this study, such as dyspnea, edema, fatigue, decreased cardiac output as well as the nursing interventions proposed in the management of patients with HF.[2]

An integrative review aimed to identify in the national and international literature the knowledge produced about the nursing diagnoses of patients hospitalized with heart failure identified as the main diagnoses the decreased cardiac output, as well as the fluid overload, which meets with the clinical manifestations evidenced in this case under study.[20]

In this sense, nursing interventions aim to improve the patient's resistance capacity, establishing mutual goals, focusing on pharmacological and non-pharmacological measures, nutritional support with sodium and liquid restriction, daily weight monitoring, guidelines for physical exercises, increased sleep and rest, regular use of medications, and especially the recognition of the signs and symptoms of clinical decompensation.[19-21]

The evaluation of nursing care has as its main source the observations made in the patient, allowing early detection of clinical signs of decompensation and promoting care plans according to the physical, psychological, social and spiritual needs, enabling individualized and holistic care.[22]

It is worthy mentioning that providing the patient with the knowledge of their own disease, as well as the relationship between drug therapy, healthy habits and the disease, can change the rates of re-admission. Educational nursing interventions performed during hospitalization improve knowledge of the HF, self-care and quality of life for patients and their families.[11-22]

Literature shows that the non-pharmacological treatment is very important in controlling the disease. Thus, the nurse has gained a prominent role in the treatment of HF, justifying their actions in specialized clinics in monitoring and follow-up of patients with HF.[2]

CONCLUSIONS

Through a case study, this study aimed to identify, based on ICNP®, the nursing diagnoses/interventions presented from clinical evidence resulting from heart failure, contributing to the work of nurses in decision-making and management of decompensated medical conditions, allowing to achieve the systematization of nursing care in a comprehensible way and to support a better assistance.

The nurse must be prepared to treat patients with heart failure, as the demand is growing and is present in the various health care levels. As study limitation, we can point the incomplete filling of information in the medical records and the lack of adherence of the nursing staff in the implementation of the nursing process.

Although nursing diagnoses and interventions resulting from this study are standardized by the institution, the nurse must take into consideration their clinical reasoning, history and physical examination, at the time of evaluation, considering the real needs of the patient.

It is noteworthy that this study did not have an intervention proposal, it only used the clinical signs and symptoms presented by the patient to discuss the main nursing diagnoses and guide interventions in the performance of nursing care. To strengthen the findings in this study, authors suggest that further research be developed with implementation of the nursing process as well as training for adherence to and implementation of the nursing process.

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Received on: 06/05/2015
Reviews required: No
Approved on: 01/08/2016
Published on: 01/10/2016

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